

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
1 September 2005 (01.09.2005)

PCT

(10) International Publication Number  
**WO 2005/080932 A1**

(51) International Patent Classification<sup>7</sup>: **G01L 21/34**

(21) International Application Number:  
PCT/SI2005/000003

(22) International Filing Date: 26 January 2005 (26.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
P-200400060 23 February 2004 (23.02.2004) SI

(71) Applicant (for all designated States except US): **INSTITUT "JOSEF STEFAN"** [SI/SI]; Jamova 39, 1000 Ljubljana (SI).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **VESEL, Alenka** [SI/SI]; Cankarjeva 14, 1236 Trzin (SI). **MOZETIC, Miran** [SI/SI]; ul. Bratov Ucakar 18, 1000 Ljubljana (SI).

(74) Agent: **ITEM D.O.O.**; Resljeva 16, 1000 Ljubljana (SI).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

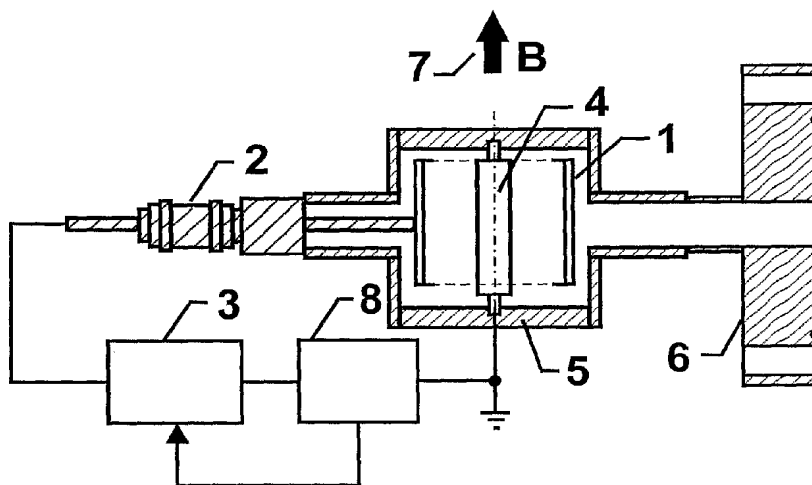
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: METHOD AND DEVICE FOR MEASURING ULTRAHIGH VACUUM



(57) **Abstract:** The invention relates to a method and a device for measuring ultrahigh vacuum and, more particularly, to a method for measuring ultrahigh vacuum with an ultrahighvacuum cold cathode pressure gauge, and to an ultrahighvacuum cold cathode pressure gauge. The pressure gauge according to the invention operates at a voltage that varies with pressure in such a way that the ion current is maintained at its maximum value at all times. The method for measuring ultrahigh vacuum by means of an ultrahighvacuum cold cathode pressure gauge is characterized in that the voltage-controlled source (3) preliminarily scans the entire voltage range, preferably between 1 kV and 12 kV, in a short time, and subsequently sets the source to the voltage, at which the current was at its maximum value, or that, alternatively, the voltage-controlled source (3), based on the calibration of the gauge, sets the voltage, for a given pressure, to the value that has been previously stored as optimal. The device for measuring ultrahigh vacuum, is characterized in that the anode (1) of the pressure gauge cell is connected to a voltage-controlled source (3) providing a varying voltage.

WO 2005/080932 A1



---

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*